Amendments to the Claims:

1. **(Original)** A data sending device for mapping each symbol of sending data to any one of a plurality of signal levels and sending the sending data, the data sending device comprising:

a data mapping section for mapping the sending data such that a higher/lower relationship of a signal level of each symbol with respect to a reference level is constantly inverted on a symbol by symbol basis; and

a non-data mapping section for mapping a non-data section transmitted in a state of being distinguished from a data section, such that the non-data section includes a distinguishing symbol for distinguishing the data section and the non-data section from each other, and such that a higher/lower relationship of a signal level of the distinguishing symbol with respect to the reference level is the same as the higher/lower relationship of a symbol immediately before the distinguishing symbol.

2. **(Original)** A data sending device according to claim 1, wherein the non-data mapping section performs the mapping such that:

a) when the signal level of the symbol immediately before the distinguishing symbol is higher than the reference level, the signal level of the distinguishing symbol is equal to or higher than the signal level of the symbol immediately before the distinguishing symbol; and

b) when the signal level of the symbol immediately before the distinguishing symbol is lower than the reference level, the signal level of the distinguishing symbol is equal to or lower than the signal level of the symbol immediately before the distinguishing symbol.

3. **(Original)** A data sending device according to claim 1, wherein the non-data mapping section performs the mapping such that the signal level of the distinguishing symbol is equal to the signal level of the symbol immediately before the distinguishing symbol.

4. **(Original)** A data sending device according to claim 1, wherein the non-data mapping section performs the mapping such that a leading symbol of the non-data section is the distinguishing symbol.

5. **(Original)** A data sending device according to claim 1, wherein the non-data section is header information added to the data section.

6. **(Original)** A data sending device according to claim 5, wherein the non-data mapping section outputs a symbol stream having a predetermined pattern for distinguishing a header type in addition to the distinguishing symbol.

7. **(Original)** A data sending device according to claim 6, wherein based on data indicating the header type, the non-data mapping section selects a symbol stream corresponding to the header type from a plurality of patterns of symbol streams prepared in advance.

8. **(Original)** A data sending device according to claim 1, wherein:

data to be transmitted is frame data including an 8-bit header section and a biphase-mark-encoded data section;

the non-data mapping section converts the header section of the frame data into a symbol stream including four symbols including the distinguishing symbol in accordance with a header type of the header section; and

the data mapping section biphase-mark-decodes the data section of the frame data, and maps each symbol such that the higher/lower relationship thereof with respect to a reference level is constantly inverted on a symbol by symbol basis, with each bit of the decoded data being one symbol.

9. **(Original)** A data sending device according to claim 1, further comprising a previous signal storage section for storing outputs from the data mapping section and the non-data mapping section, and supplying the outputs to the data mapping section and the non-data mapping section.

10. **(Currently amended)** A data receiving device for receiving a transmission signal which is sent in the state where each symbol of sending data is mapped to any one of a plurality of signal levels, the data receiving device comprising:

a distinguishing symbol detection section for detecting a distinguishing symbol for distinguishing a data section and a non-data section of the transmission signal from each other based on a change pattern of signal levels of the transmission signal;

a data determination section for reproducing data from the data section of the transmission signal based on a detection result of the distinguishing symbol detection section; and

a non-data determination section for reproducing non-data information from the non-data section of the transmission signal based on the detection result of the distinguishing symbol detection ~~section.~~ section;

wherein when a signal level of a symbol in the transmission signal and a signal level of an immediately previous symbol thereto have the same higher/lower relationship as each other with respect to a reference level, the distinguishing symbol detection section detects the symbol as a distinguishing symbol.

11. **(Original)** A data receiving device according to claim 10, wherein when a signal level of a symbol in the transmission signal is equal to a signal level of an immediately previous symbol thereto, the distinguishing symbol detection section detects the symbol as a distinguishing symbol.

12. **(Original)** A data receiving device according to claim 10, wherein the non-data determination section distinguishes a header type corresponding to the non-data section by determining which of a plurality of patterns of symbol streams prepared in advance in correspondence with header types is included in the non-data section.

13. **(Original)** A data receiving device according to claim 10, further comprising a biphase encoding section for biphase-mark-encoding data which is reproduced by the data determining section and outputting an encoding result as a data section of the frame data,

wherein the non-data determination section converts the non-data section into a header section of the frame data in accordance with the pattern of the non-data section of the transmission signal, and outputs the header section.

14. **(Original)** A transmission path encoding method for mapping each symbol of sending data to any one of a plurality of signal levels, the transmission path encoding method comprising the steps of:

mapping a data section such that a higher/lower relationship of a signal level of each symbol with respect to a reference level is constantly inverted on a symbol by symbol basis; and

mapping a non-data section to be transmitted in a state of being distinguished from the data section such that the non-data section includes a distinguishing symbol for distinguishing the data section and the non-data section from each other, and such that a higher/lower relationship of a signal level of the distinguishing symbol with respect to the reference level is the same as the higher/lower relationship of a symbol immediately before the distinguishing symbol.

15. **(Original)** A transmission path encoding method according to claim 14, wherein the mapping is performed such that:

a) when the signal level of the symbol immediately before the distinguishing symbol is higher than the reference level, the signal level of the distinguishing symbol is equal to or higher than the signal level of the symbol immediately before the distinguishing symbol; and

b) when the signal level of the symbol immediately before the distinguishing symbol is lower than the reference level, the signal level of the distinguishing symbol is equal to or lower than the signal level of the symbol immediately before the distinguishing symbol.

16. **(Original)** A transmission path encoding method according to claim 14, wherein the mapping is performed such that the signal level of the distinguishing symbol is equal to the signal level of the symbol immediately before the distinguishing symbol.

17. **(Original)** A decoding method for decoding a receiving signal obtained as a result of mapping performed by a transmission path encoding method according to claim 14, the decoding method comprising the steps of:

detecting the distinguishing symbol included in the receiving signal by determining a higher/lower relationship of the signal level of each symbol with respect to the reference level on a symbol by symbol basis; and

individually decoding the data section and the non-data section based on the distinguishing symbol.

18. **(Original)** A decoding method for decoding a receiving signal obtained as a result of mapping performed by a transmission path encoding method according to claim 15, the decoding method comprising the steps of:

detecting the distinguishing symbol by determining a signal level difference between two consecutive symbols of the data on a symbol by symbol basis;

individually decoding the data section and the non-data section based on the distinguishing symbol.

19. **(Original)** A decoding method for decoding a receiving signal obtained as a result of mapping performed by a transmission path encoding method according to claim 16, the decoding method comprising the steps of:

detecting the distinguishing symbol by determining whether or not two consecutive symbols of the data have an equal signal level;

individually decoding the data section and the non-data section based on the distinguishing symbol.